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<110> Morris, Peter
Stiefel, Thomas
Voelter, Wolfgang
Welters, Peter

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Ser	Xaa	Thr	Ala	Ala	Ile	Asp	Val	Thr	Asn	Xaa	Tyr	Val	Val	Ala	Tyr
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Gln	Ala	Gly	Asp	Gln	Ser	Tyr	Phe	Leu	Arg	Asp	Ala	Pro	Arg	Gly	Ala
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Ile Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp Arg
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 Xaa Arg Gln Xaa Ile Asn Ser Gly Xaa Ser Phe Leu Pro Asp Xaa Tyr
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 His Ser Thr Asp Gly Val Phe Asn Asn Pro Xaa Arg Leu Ala Ile Xaa
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 Xaa Gly Asn Phe Val Thr Leu Xaa Asn Val Arg Xaa Val Ile Ala Ser
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 260 265 270
 Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly Arg Xaa Gly
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 Met Xaa Val Asp Val Arg Asp Asp Asp Phe His Asp Gly Asn Gln Ile
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 Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp Cys Asn Thr
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Phe	Ser	Asn	Glu	Ile	Pro	Leu	Leu	Arg	Gln	Ser	Thr	Ile	Pro	Val	Ser
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Asp	Ala	Gln	Arg	Phe	Val	Leu	Val	Glu	Leu	Thr	Asn	Gln	Gly	Xaa	Asp
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Ser	Xaa	Thr	Ala	Ala	Ile	Asp	Val	Thr	Asn	Xaa	Tyr	Val	Val	Ala	Tyr
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Cys	Ser	Xaa	Xaa	Ser	Xaa	Xaa	Gln	Arg	Trp	Val	Phe	Thr	Asn	Glu	Xaa
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Phe	Ser	Asn	Glu	Ile	Pro	Leu	Leu	Arg	Gln	Ser	Thr	Ile	Pro	Val	Ser	35	40	45	
Asp	Ala	Gln	Arg	Phe	Val	Leu	Val	Glu	Leu	Thr	Asn	Gln	Gly	Gly	Asp	50	55	60	
Ser	Ile	Thr	Ala	Ala	Ile	Asp	Val	Thr	Asn	Leu	Tyr	Val	Val	Ala	Tyr	65	70	75	80
Gln	Ala	Gly	Asp	Gln	Ser	Tyr	Phe	Leu	Arg	Asp	Ala	Pro	Arg	Gly	Ala	85	90	95	
Glu	Thr	His	Leu	Phe	Thr	Gly	Thr	Thr	Arg	Ser	Ser	Leu	Pro	Phe	Asn	100	105	110	
Gly	Ser	Tyr	Pro	Asp	Leu	Glu	Arg	Tyr	Ala	Gly	His	Arg	Asp	Gln	Ile	115	120	125	
Pro	Leu	Gly	Ile	Asp	Gln	Leu	Ile	Gln	Ser	Val	Thr	Ala	Leu	Arg	Phe	130	135	140	
Pro	Gly	Gly	Ser	Thr	Arg	Thr	Gln	Ala	Arg	Ser	Ile	Leu	Ile	Leu	Ile	145	150	155	160
Gln	Met	Ile	Ser	Glu	Ala	Ala	Arg	Phe	Asn	Pro	Ile	Leu	Trp	Arg	Ala	165	170	175	
Arg	Gln	Tyr	Ile	Asn	Ser	Gly	Ala	Ser	Phe	Leu	Pro	Asp	Val	Tyr	Met	180	185	190	
Leu	Glu	Leu	Glu	Thr	Ser	Trp	Gly	Gln	Gln	Ser	Thr	Gln	Val	Gln	His	195	200	205	
Ser	Thr	Asp	Gly	Val	Phe	Asn	Asn	Pro	Ile	Arg	Leu	Ala	Ile	Pro	Pro	210	215	220	
Gly	Asn	Phe	Val	Thr	Leu	Thr	Asn	Val	Arg	Asp	Val	Ile	Ala	Ser	Leu	225	230	235	240
Ala	Ile	Met	Leu	Phe	Val	Cys	Gly	Glu	Arg	Pro	Ser	Ser	Ser	Asp	Val	245	250	255	
Arg	Tyr	Trp	Pro	Leu	Val	Ile	Arg	Pro	Val	Ile	Ala	Asp	Asp	Val	Thr	260	265	270	
Cys	Ser	Ala	Ser	Glu	Pro	Thr	Val	Arg	Ile	Val	Gly	Arg	Asn	Gly	Met	275	280	285	

Cys Val Asp Val Arg Asp Asp Asp Phe His Asp Gly Asn Gln Ile Gln
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Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln Leu Trp Thr Ile
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Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys Leu Thr Thr Tyr
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Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp Cys Asn Thr Ala
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Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Gly Asn Gly Thr Ile Ile
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Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu Gly Gln Gly Trp
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Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr Ile Tyr Gly Phe
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Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val Trp Val Glu Thr
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Cys Val Ser Ser Gln Gln Asn Gln Arg Trp Ala Leu Tyr Gly Asp Gly
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Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys Leu Thr Cys Gly Arg
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Phe Ser Asn Glu Ile Pro Leu Leu Arg Gln Ser Thr Ile Pro Val Ser
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 Asp Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Gly Gln Asp
 50 55 60
 Ser Ile Thr Ala Ala Ile Asp Val Thr Asn Ala Tyr Val Val Ala Tyr
 65 70 75 80
 Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Arg Gly Ala
 85 90 95
 Glu Thr His Leu Phe Thr Gly Thr Thr Arg Asp Arg Ser Ser Leu Pro
 100 105 110
 Phe Thr Gly Ser Tyr Thr Asp Leu Glu Arg Tyr Ala Gly His Arg Asp
 115 120 125
 Gln Ile Pro Leu Gly Ile Glu Gln Leu Ile Gln Ser Val Ser Ala Leu
 130 135 140
 Arg Tyr Pro Gly Gly Ser Thr Arg Ala Gln Ala Arg Ser Ile Leu Ile
 145 150 155 160
 Leu Ile Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp
 165 170 175
 Arg Tyr Arg Gln Asp Ile Asn Ser Gly Glu Ser Phe Leu Pro Asp Met
 180 185 190
 Tyr Met Leu Glu Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val
 195 200 205
 Gln His Ser Thr Asp Gly Val Phe Asn Asn Pro Phe Arg Leu Ala Ile
 210 215 220
 Ser Thr Gly Asn Phe Val Thr Leu Ser Asn Val Arg Ser Val Ile Ala
 225 230 235 240
 Ser Leu Ala Ile Met Leu Phe Val Cys Gly Glu Arg Pro Ser Ser Ser
 245 250 255

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 <223> mistletoe lectin B
 <400> 6

Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
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 Arg Asn Gly Met Cys Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
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 Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
 35 40 45

Leu Trp Thr Ile Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys
50 55 60

Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
65 70 75 80

Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Gly Asn
85 90 95

Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
100 105 110

Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
115 120 125

Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
130 135 140

Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val
145 150 155 160

Trp Val Glu Thr Cys Val Ser Ser Gln Gln Asn Gln Arg Trp Ala Leu
165 170 175

Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys Leu
180 185 190

Thr Cys Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser Cys
195 200 205

Ser Ala Gly Ser Ser Gly Gln Arg Trp Val Phe Thr Asn Glu Gly Ala
210 215 220

Ile Leu Asn Leu Lys Asn Gly Leu Ala Met Asp Val Ala Gln Ala Asn
225 230 235 240

Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro Asn
245 250 255

Gln Met Trp Leu Pro Val Pro
260

<210> 7
<211> 264
<212> PRT
<213> Artificial

<220>
<223> mistletoe lectin 1 (match)

<400> 7

Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
1 5 10 15

Arg Asn Gly Met Arg Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
20 25 30

Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
35 40 45

Leu Trp Thr Ile Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys
50 55 60

Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
65 70 75 80

Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Asp Asn
85 90 95

Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
100 105 110

Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
115 120 125

Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
130 135 140

Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val
145 150 155 160

Trp Val Glu Thr Cys Asp Ser Ser Gln Lys Asn Gln Gly Lys Trp Ala
165 170 175

Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys
180 185 190

Leu Thr Ser Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser
195 200 205

Cys Ser Gly Ala Ser Gly Ser Gln Arg Trp Val Phe Thr Asn Glu Gly
210 215 220

Ala Ile Leu Asn Leu Lys Asn Gly Leu Ala Met Asp Val Ala Gln Ala
225 230 235 240

Asn Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro
245 250 255

Asn Gln Met Trp Leu Pro Val Phe
260

<210>

8

<211>

264

<212>

PRT

<213>

Artificial

<220>

<223>

mistletoe lectin B2 (match)

<400>

8

Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
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Arg Ser Gly Met Arg Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
20 25 30

Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
35 40 45

Leu Trp Thr Ile Lys Arg Asp Asn Thr Ile Arg Ser Asn Gly Ser Cys
50 55 60

Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
 65 70 75 80
 Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Asp Asn
 85 90 95
 Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
 100 105 110
 Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
 115 120 125
 Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
 130 135 140
 Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gln Gly Ser Val
 145 150 155 160
 Trp Val Glu Thr Cys Asp Ser Ser Gln Lys Asn Gln Gly Lys Trp Ala
 165 170 175
 Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys
 180 185 190
 Leu Thr Val Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser
 195 200 205
 Cys Ser Gly Ala Ser Gly Ser Gln Arg Trp Val Phe Thr Asn Glu Tyr
 210 215 220
 Ala Ile Leu Asn Leu Lys Ser Gly Leu Ala Met Asp Val Ala Gln Ala
 225 230 235 240
 Asn Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro
 245 250 255

Asn Gln Met Trp Leu Pro Val Phe
 260

<210> 9
 <211> 264
 <212> PRT
 <213> Artificial
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 <223> mistletoe lectin B3 (match)
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Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
 1 5 10 15
 Arg Asn Gly Met Arg Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
 20 25 30
 Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
 35 40 45
 Leu Trp Thr Ile Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys
 50 55 60
 Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
 65 70 75 80

Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Asp Asn
 85 90 95
 Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
 100 105 110
 Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
 115 120 125
 Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
 130 135 140
 Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val
 145 150 155 160
 Trp Val Glu Thr Cys Asp Ser Ser Gln Lys Asn Gln Gly Lys Trp Ala
 165 170 175
 Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys
 180 185 190
 Leu Thr Ser Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser
 195 200 205
 Cys Ser Gly Ala Ser Gly Ser Gln Arg Trp Val Phe Thr Asn Glu Gly
 210 215 220
 Ala Ile Leu Asn Leu Lys Thr Gly Leu Ala Met Asp Val Ala Gln Ala
 225 230 235 240
 Asn Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro
 245 250 255

Asn Gln Met Trp Leu Pro Val Phe
 260

<210> 10
 <211> 264
 <212> PRT
 <213> Artificial

<220>
 <223> mistletoe lectin B4 (match)
 <400> 10

Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
 1 5 10 15
 Arg Asn Gly Met Arg Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
 20 25 30
 Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
 35 40 45
 Leu Trp Thr Ile Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys
 50 55 60
 Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
 65 70 75 80

Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Asp Asn
 85 90 95
 Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
 100 105 110
 Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
 115 120 125
 Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
 130 135 140
 Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val
 145 150 155 160
 Trp Val Glu Thr Cys Asp Ser Ser Gln Lys Asn Gln Gly Lys Trp Ala
 165 170 175
 Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys
 180 185 190
 Leu Thr Ser Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser
 195 200 205
 Cys Ser Gly Ala Ser Gly Ser Gln Arg Trp Val Phe Thr Asn Glu Gly
 210 215 220
 Ala Ile Leu Asn Leu Lys Lys Gly Pro Ala Met Asp Val Ala Gln Ala
 225 230 235 240
 Asn Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro
 245 250 255
 Asn Gln Met Trp Leu Pro Val Phe
 260

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 <211> 264
 <212> PRT
 <213> Artificial
 <220>
 <223> mistletoe lectin B5 (match)
 <400> 11

Asp Asp Val Thr Cys Ser Ala Ser Glu Pro Thr Val Arg Ile Val Gly
 1 5 10 15
 Arg Asn Gly Met Arg Val Asp Val Arg Asp Asp Asp Phe His Asp Gly
 20 25 30
 Asn Gln Ile Gln Leu Trp Pro Ser Lys Ser Asn Asn Asp Pro Asn Gln
 35 40 45
 Leu Trp Thr Ile Lys Arg Asp Gly Thr Ile Arg Ser Asn Gly Ser Cys
 50 55 60
 Leu Thr Thr Tyr Gly Tyr Thr Ala Gly Val Tyr Val Met Ile Phe Asp
 65 70 75 80
 Cys Asn Thr Ala Val Arg Glu Ala Thr Ile Trp Gln Ile Trp Asp Asn
 85 90 95

Gly Thr Ile Ile Asn Pro Arg Ser Asn Leu Val Leu Ala Ala Ser Ser
 100 105 110
 Gly Ile Lys Gly Thr Thr Leu Thr Val Gln Thr Leu Asp Tyr Thr Leu
 115 120 125
 Gly Gln Gly Trp Leu Ala Gly Asn Asp Thr Ala Pro Arg Glu Val Thr
 130 135 140
 Ile Tyr Gly Phe Arg Asp Leu Cys Met Glu Ser Asn Gly Gly Ser Val
 145 150 155 160
 Trp Val Glu Thr Cys Asp Ser Ser Gln Lys Asn Gln Gly Lys Trp Ala
 165 170 175
 Leu Tyr Gly Asp Gly Ser Ile Arg Pro Lys Gln Asn Gln Asp Gln Cys
 180 185 190
 Leu Thr Ser Gly Arg Asp Ser Val Ser Thr Val Ile Asn Ile Val Ser
 195 200 205
 Cys Ser Gly Ala Ser Gly Ser Gln Arg Trp Val Phe Thr Asn Glu Gly
 210 215 220
 Ala Ile Leu Asn Leu Lys Asn Ser Leu Met Val Asp Val Ala Gln Ala
 225 230 235 240
 Asn Pro Lys Leu Arg Arg Ile Ile Ile Tyr Pro Ala Thr Gly Lys Pro
 245 250 255
 Asn Gln Met Trp Leu Pro Val Phe
 260

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 <211> 1598
 <212> DNA
 <213> Artificial

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 <223> ML-I

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 <220>
 <221> misc_feature
 <222> 1322
 <223> product= "n is ggc or missing"
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 cgtcagtcta cgatccccgt ctccgatgcg caaagatttg tcttggtgga gctcaccaac 180

caggggsrrg actcgrtyac ggccgccatc gacgttacca atsyktacgt cgtggcttac	240
caagcaggcg accaatecta ctttttgcgc gacgcaccac gcggcgcgga aacgcacctc	300
ttcaccggca ccacccgant cctctctccc attcamyga agctacmcyg atctggagcg	360
atacgccgga catagggacc agatccctct cggtatagas caactcattc aatccgtcwc	420
kgcgcttcgt twyccgggcg gcagcacgcg tcycaagct cgttcgattt taatcctcat	480
tcagatgata tccgaggccg ccagattcaa tcccatctta tggaggkmyc gccaakayat	540
taacagtggg gmrtcatttc tgccagacrt gtacatgctg gagctggaga cgagtgggg	600
ccaacaatcc acgcaagtc agcattcaac cgatggcggtt ttaataaacc cawtycggtt	660
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ggcgatcatg ttgtttgtat gcggagagcg gccatcttc tctgacgtgc gctattggcc	780
gctggtcata cgaccctga tagccgatga tgttacctgc agtgcttcgg aacctacggt	840
gcggattgtg ggtcgartg gcatgygcgt ggacgtccga gatgacgatt tccacgatgg	900
gaatcagata cagttgtggc cctccaagtc caacaatgat ccgaatcagt tgtggacgat	960
caaaagggat rrmaccattc gatccaatgg cagctgcttg accacgtatg gctatactgc	1020
tggcgctctat gtgatgatct tcgactgtaa tactgctgtg cgggaggcca ctatttggca	1080
gatatgggrc aatgggacca tcatcaatcc aagatccaat ctggtttttg cagcatcatc	1140
tggaatcaaa ggcactacgc ttacggtgca aacactggat tacacgttgg gacagggctg	1200
gcttgccggt aatgataccg cccacgcga ggtgaccata tatggtttca gggacctttg	1260
catggaatca aatsraggga gtgtgtgggt ggagacgtgc gwsagtagcc aamagaacca	1320
anaratgggc tttgtacggg gatggttcta tacgccccaa acaaaaccaaa gaccaatgcc	1380
tcacckbtgg gagagactcc gtttcaacag taatcaatat agttagctgc agcgswgswt	1440
cgkskkskca gcgatgggtg tttaccaatg aakrsgccat tttgaattta aagavwrgsy	1500
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<210>	13
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<212>	DNA
<213>	Artificial
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<400> 13

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cgtcagtcta cgatccccgt ctccgatgcy caaagatttg tcttggtgga gctcaccaac 180

caggggsrrg actcgrtyac ggccgccatc gacgttacca atsyktacgt cgtggcttac 240

caagcaggcg accaatccta ctttttgcyg gacgcaccac gcggcgcgga aacgcacctc 300

ttcaccggca ccacccgant cctctctccc attcamyga agctacmcyg atctggagcg 360

atagccgga catagggacc agatccctct cggtatagas caactcattc aatccgtcwc 420

kcgcttctgt twyccgggcy gcagcacgcy tcycaagct cgttcgattt taatcctcat 480

tcagatgatc tccgaggccg ccagattcaa tcccatctta tggaggkmyc gccaaayat 540

taacagtggg gmrtcatttc tgccagacrt gtacatgctg gagctggaga cgagttgggg 600

ccaacaatcc acgcaagtcc agcattcaac cgatggcggtt tttaataacc cawtycggtt 660

ggctataycy mcyygtaact tegtgcggtt gwcyaatgtt cgckmygtga tgcgcagctt 720

ggcgatcatg ttgtttgtat gcggagagcy gccatcttcc tct 763

<210> 14
 <211> 793
 <212> DNA
 <213> Artificial

<220>
 <223> MLB

<220>
 <221> misc_feature
 <222> 517
 <223> product= "n is ggc or missing"
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<400> 14

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatrrmac cattcgatcc 180

aatggcagct gcttgaccac gtatggctat actgctggcy tctatgtgat gatcttcgac 240

tgttaatactg ctgtgcggga ggccactatt tggcagatat gggrraatgg gaccatcatc 300

aatccaagat ccaatctggt tttggcagca tcatctggaa tcaaaggcac tacgcttacg 360

gtgcaaacac tggattacac gttgggacag ggctggcttg ccggtaatga taccgcccc 420

cgcgaggtga ccatatatgg tttcaggac ctttgcagtg aatcaaatsr agggagtgtg 480

tgggtggaga cgtgcgwsag tagccaamag aaccaanara tgggctttgt acggggatgg 540

ttctatacgc	cccaaacaaa	accaagacca	atgcctcacc	kbtgggagag	actccgtttc	600
aacagtaatc	aatatagtta	gctgcagcgs	wgswtcgksk	kskcagcgat	gggtgtttac	660
caatgaakrs	gccattttga	atttaaagav	wrgsyygrys	rtggatgtgg	cggaagcaaa	720
tccaaagctc	cgccgaataa	ttatctatcc	tgccacagga	aaaccaaatac	aaatgtggct	780
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<210> 15
 <211> 1596
 <212> DNA
 <213> Artificial

<220>
 <223> MLA-I

<400> 15

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cgtcagtcta	cgatccccgt	ctccgatgcg	caaagatttg	tcttggtgga	gctcaccaac	180
caggggggag	actcgatcac	ggccgccatc	gacgttacca	atctgtacgt	cgtggcttac	240
caagcaggcg	accaatccta	ctttttgcgc	gacgcaccac	gcggcgcgga	aacgcacctc	300
ttcacccgga	ccaccgatc	ctctctccca	ttcaacggaa	gctaccctga	tctggagcga	360
tacgccggac	atagggacca	gatccctctc	ggtatagacc	aactcattca	atccgtcacg	420
gcgcttcggt	ttccgggcgg	cagcacgcgt	acccaagctc	gttcgatttt	aatcctcatt	480
cagatgatct	cagaggccgc	cagattcaat	cccattcttat	ggagggctcg	ccaatacatt	540
aacagtgggg	cgtcattttc	gccagacgtg	tacatgctgg	agctggagac	gagttggggc	600
caacaatcca	cgcaagtcca	gcattcaacc	gatggcggtt	ttaataaccc	aattcgggtg	660
gctatacccc	cgggtaactt	cgtgacgttg	accaatgttc	gcgacgtgat	cgccagcttg	720
gogatcatgt	tgtttgatg	cggagagcgg	ccatcttcct	ctgacgtgcg	ctattggccg	780
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aatcagatac	agttgtggcc	ctccaagtcc	aacaatgata	cgaatcagtt	gtggacgata	960
aaaagggatg	gaaccattcg	atccaatggc	agctgcttga	ccacgatatg	ctatactgct	1020
ggcgtctatg	tgatgatctt	cgactgtaat	actgctgtgc	gggaggccac	tatttggcag	1080
atatggggca	atgggaccat	catcaatcca	agatccaata	tggttttggc	agcatcatct	1140
ggaatcaaag	gcactacgct	tacgggtgca	acactggatt	acacgttggg	acagggctgg	1200
cttgccggta	atgataccgc	cccacgcgag	gtgacatat	atggtttcag	ggacctttgc	1260

atggaatcaa atggagggag tgtgtgggtg gagacgtgcg tgagtagcca acagaaccaa	1320
agatgggctt tgtacgggga tggttctata cgccccaaac aaaaccaaga ccaatgcctc	1380
acctgtggga gagactccgt ttcaacagta atcaatatag ttagctgcag cgtgggatcg	1440
tctgggcagc gatgggtgtt taccaatgaa ggggccattt tgaatttaaa gaatgggttg	1500
gccatggatg tggcgcaagc aaatccaaag ctccgccgaa taattatcta tcttgccaca	1560
ggaaaaccaa atcaaattgtg gcttcccggtg ccatga	1596

<210> 16
 <211> 762
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin A1

<400> 16

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cgtcagtcta cgatccccgt ctccgatgcg caaagatttg tcttgggtga gctcaccaac	180
caggggcagg actcgggttac ggccgccatc gacgttacca atgcttacgt cgtggcttac	240
caagcaggcg accaatccta ctttttgccg gacgcaccac gcggcgcgga aacgcacctc	300
ttcacgggca ccaccgatc ctctctccca ttcaacggaa gctaccctga tctggagcga	360

tacgccggac atagggacca gatccctctc ggtatagacc aactcattca atccgtcacg	420
gcgcttcggt ttcggggcgg cagcacgcgt acccaagctc gttcgatttt aatcctcatt	480
cagatgatct ccgaggccgc cagattcaat cccatcttat ggaggtaccg ccaatacatt	540
aacagtgggg cgtcatttct gccagacgtg tacatgctgg agctggagac gagttggggc	600
caacaatcca cgcaagtcca gcattcaacc gatggcgttt ttaataaccc aattcgggtg	660
gctatacccc ccggttaact cgtgacgttg accaatgttc gcgacgtgat cgccagcttg	720
gcgatcatgt tgtttgatg cggagagcgg ccattcttct ct	762

<210> 17
 <211> 768
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin A2

<400> 17

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cgtcagtcta	cgatccccgt	ctccgatgcg	caaagatttg	tcttggtgga	gctcaccaac	180
caggggcagg	actcgatcac	ggccgccatc	gacgttacca	atgcttacgt	cgtggcttac	240
caagcaggcg	accaatccta	ctttttgcmc	gacgcaccac	gcggcgcgga	aacgcacctc	300
ttcaccggca	ccacccgaga	tagatcctct	ctccattca	ctggaagcta	caccgatctg	360
gagcgatacg	cggacatag	ggaccagatc	cctctcggtg	tagagcaact	cattcaatcc	420
gtctctgcmc	ttcggttacc	ggcgggcagc	acgcgtgctc	aagctcgctc	gattttaatc	480
ctcattcaga	tgatctccga	ggccgccaga	ttcaatccca	tcttatggag	gtaccgcaa	540
gatattaaca	gtggggaatc	atttctgcc	gacatgtaca	tgctggagct	ggagacgagt	600
tggggccaac	aatccacgca	agtccagcat	tcaaccgatg	gcgttttta	taaccattc	660
cggttggcta	tatctactgg	taacttcgtg	acgttgctca	atgttcgctc	tgtgatcgcc	720
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<212>	DNA
<213>	Artificial
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<223>	MLI (matched)
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agacaatcta	ctattccagt	ttctgatgct	cagcgtttcg	ttcttggtga	attgactaac	180
caaggagggtg	atagtattac	tgctgctatt	gatgtgacta	acctttatgt	tgttgcatat	240
caggetgggtg	atcagttcta	tttccttagg	gatgctccta	gaggagctga	gactcatttg	300
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<210>	19
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<212>	DNA
<213>	Artificial
<220>	
<223>	mistletoe lectin A1
<400>	19

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agacaatcta ctattccagt ttctgatgct cagcgtttcg ttcttgttga attgactaac	180
caaggacagg atagtgttac tgctgctatt gatgtgacta acgcttatgt tgttgcatat	240
caggctgggtg atcagttcta tttccttagg gatgtccta gaggagctga gactcatttg	300
tttactggta caacacggag ttctttgcct tttaacgggt cttatccaga cttggaaaga	360
tatgctggtc acagagatca aattccattg ggaattgatc agttgatcca gagtgttact	420
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caaatgatta gtgaagctgc taggtttaac cctattcttt ggagatacag acagtatata	540
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cagcagtcta ctcagtttca acacagtaca gacggtgtgt tcaacaatcc tatcagactt	660
gcaattccac ctggaaattt tgttactctt acaaacgtga gagatgttat tgcttctctt	720
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<210>	20
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<211> 768
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin A2

<400> 20

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agacaatcta ctattccagt ttctgatgct cagcgtttcg ttcttgtga attgactaac	180
caaggacagg atagtattac tgctgctatt gatgtgacta acgcttatgt tgttgcatat	240
caggctggtg atcagtctta tttccttagg gatgctccta gaggagctga gactcatttg	300
tttactggta caacacggga tagaagttct ttgcctttta ctggttctta tacagacttg	360
gaaagatatg ctgggtcacag agatcaaatt ccattgggaa ttgagcagtt gatccagagt	420
gtttctgctt tgagataccc aggtggatct actagagctc aggcaagatc tatecttatt	480
ttgatccaaa tgattagtga agctgctagg tttaacctta ttctttggag atacagacag	540
gatatcaact ctgggtgaatc tttccttcct gatattgtata tgcttgaact tgaaacttca	600
tggggacagc agtctactca ggttcaacac agtacagacg gtgtgttcaa caatcctttc	660
agacttgcaa tttctactgg aaattttgtt actctttcta acgtgagatc tgttattgct	720
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<210> 21
 <211> 792
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B

<400> 21

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatggaac cattcgatcc	180
aatggcagct gcttgaccac gtatggctat actgctggcg tctatgtgat gatcttcgac	240
tgtaatactg ctgtgcgga ggccactatt tggcagatat ggggcaatgg gaccatcatc	300
aatccaagat ccaatctggt tttggcagca tcactctggaa tcaaaggcac tacgcttacg	360
gtgcaaacac tggattacac gttgggacag ggctggcttg ccggtaatga taccgcccc	420
cgcgaggtga ccataatagg tttcaggga ctttgcattg aatcaaattg agggagtgtg	480
tgggtggaga cgtgcgtgag tagccaacag aaccaaagat gggctttgta cggggatggt	540

tctatacgcc ccaaacaaaa ccaagaccaa tgcctcacct gtgggagaga ctccgtttca	600
acagtaatca atatagttag ctgcagcgct ggatcgctctg ggcagcgatg ggtgtttacc	660
aatgaagggg ccattttgaa tttaaagaat gggttggcca tggatgtggc gcaagcaa	720
ccaaagctcc gccgaataat tatctatcct gccacaggaa aaccaaata aatgtggctt	780
cccgtgccat ga	792

<210> 22
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B1

<400> 22

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatggaac cattcgatcc	180
aatggcagct gcttgaccac gtatggctat actgctggcg tctatgtgat gatcttcgac	240
tgttaatactg ctgtgcggga ggccactatt tggcagatat gggacaatgg gaccatcatc	300
aatccaagat ccaatctggg tttggcagca tcatctggaa tcaaaggcac tacgcttacg	360
gtgcaaacac tggattacac gttgggacag ggctggcttg ccggaatga taccgcccc	420

cgcgaggtga ccatatatgg tttcagggac ctttgcattg aatcaaattg agggagtgtg	480
tgggtggaga cgtgcgacag tagccaaaag aaccaaggca aatgggcttt gtacggggat	540
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tcaacagtaa tcaatatagt tagctgcagc ggagcttcgg ggtctcagcg atgggtgttt	660
accaatgaag gggccatttt gaatttaaag aatgggttgg ccatggatgt ggcgcaagca	720
aatccaaagc tccgcggaat aattatctat cctgccacag gaaaacaaa tcaaatgtgg	780
cttcccgtgt tctga	795

<210> 23
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B2

<400> 23

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggataaacac cattcgatcc	180
aatggcagct gcttgaccac gtatggctat actgctggcg tctatgtgat gatcttcgac	240
tgtaataactg ctgtgcggga ggccactatt tggcagatat gggacaatgg gaccatcatc	300
aatccaagat ccaatctggt tttggcagca tcatctggaa tcaaaggcac tacgcttacg	360
gtgcaaacac tggattacac gttgggacag ggctggcttg ccgtaatga taccgcccc	420
cgcgaggtga ccatatatgg tttcagggac ctttgcattg aatcaaatca agggagtgtg	480
tgggtggaga cgtgcgacag tagccaaaag aaccaaggca aatgggcttt gtacggggat	540
ggttctatac gccccaaaca aaaccaagac caatgcctca ccttggggag agactccgtt	600
tcaacagtaa tcaatatagt tagctgcagc ggagcttcgg ggtctcagcg atgggtgttt	660
accaatgaat acgccatttt gaatttaaag agtgggttgg ccatggatgt ggcgcaagca	720
aatccaaagc tccgccgaat aattatctat cctgccacag gaaaaccaa tcaaatgtgg	780
cttcccgtgt tctga	795

<210>	24
<211>	795
<212>	DNA
<213>	Artificial
<220>	
<223>	mistletoe lectin B3
<400>	24

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatggaac cattcgatcc	180
aatggcagct gcttgaccac gtatggctat actgctggcg tctatgtgat gatcttcgac	240
tgtaataactg ctgtgcggga ggccactatt tggcagatat gggacaatgg gaccatcatc	300
aatccaagat ccaatctggt tttggcagca tcatctggaa tcaaaggcac tacgcttacg	360
gtgcaaacac tggattacac gttgggacag ggctggcttg ccgtaatga taccgcccc	420
cgcgaggtga ccatatatgg tttcagggac ctttgcattg aatcaaatgg agggagtgtg	480
tgggtggaga cgtgcgacag tagccaaaag aaccaaggca aatgggcttt gtacggggat	540
ggttctatac gccccaaaca aaaccaagac caatgcctca ccttggggag agactccgtt	600
tcaacagtaa tcaatatagt tagctgcagc ggagcttcgg ggtctcagcg atgggtgttt	660
accaatgaag gggccatttt gaatttaaag actgggttgg ccatggatgt ggcgcaagca	720
aatccaaagc tccgccgaat aattatctat cctgccacag gaaaaccaa tcaaatgtgg	780
cttcccgtgt tctga	795

<210> 25
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B4

<400> 25

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatggaac cattcgatcc	180
aatggcagct gcttgaccac gtatggctat actgctggcg tctatgtgat gatcttcgac	240
tgttaatactg ctgtgcggga ggccactatt tggcagatat gggacaatgg gaccatcatc	300
aatccaagat ccaatctggt ttggcagca tcatctggaa tcaaaggcac tacgcttacg	360
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cgcgaggtga ccatatatgg ttccaggac ctctgcatgg aatcaaattg agggagtgtg	480
tgggtggaga cgtgcgacag tagccaaaag aaccaaggca aatgggcttt gtacggggat	540
ggttctatac gccccaaaca aaaccaagac caatgcctca cctctgggag agactccgtt	600
tcaacagtaa tcaatatagt tagctgcagc ggagcttcgg ggtctcagcg atgggtgttt	660
accaatgaag gggccatttt gaatttaaag aaagggccgg ccatggatgt ggcgcaagca	720
aatccaaagc tccgcgaat aattatctat cctgccacag gaaaacaaaa tcaaatgtgg	780
cttcccgtgt tctga	795

<210> 26
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B5

<400> 26

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aagtccaaca atgatccgaa tcagttgtgg acgatcaaaa gggatggaac cattcgatcc	180
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tgttaatactg ctgtgcggga ggccactatt tggcagatat gggacaatgg gaccatcatc	300
aatccaagat ccaatctggt ttggcagca tcatctggaa tcaaaggcac tacgcttacg	360
gtgcaaacac tggattacac gttgggacag ggctggcttg ccggtaatga taccgcccc	420

cgcgagggtga ccatatatgg ttccagggac ctttgcattgg aatcaaatgg agggagtggtg	480
tgggtggaga cgtgcgacag tagccaaaag aaccaaggca aatgggcttt gtacggggat	540
ggttctatac gcccacaaca aaaccaagac caatgcctca cctctgggag agactccgtt	600
tcaacagtaa tcaatatagt tagctgcagc ggagcttcgg ggtctcagcg atgggtgttt	660
accaatgaag gggccatttt gaatttaaag aatagcttga tgggtggatgt ggcgcaagca	720
aatccaaagc tccgcggaat aattatctat cctgccacag gaaaacaaa tcaaattgtg	780
cttcccgtgt tctga	795

<210> 27
 <211> 792
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B

<400> 27

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aagtctaata acgacccaaa ccaactttgg actattaaga gagacggtac aatcaggctt	180
aacggatctt gtcttactac atacgggtac actgcaggag ttacgttat gatttttgat	240
tgcaacacag cagttagaga agctacaatc tggcaaatct ggggtaacgg aactattatt	300

aaccctcggt ctaacttggg gcttgctgct tctagtggta ttaagggaac aactttgact	360
gttcagactt tggactatac tcttgggtcaa ggatgggttg ctggaaacga cacagctcct	420
agagaagtta caatctacgg atttagagat ttgtgtatgg agtctaacgg tggatctgtt	480
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actgttatta acattgtgtc ttgttctgca ggtagttctg gacaaagggtg ggttttcaca	660
aacgaggggtg ctatccttaa cttgaagaac ggtcttgcta tggatgttgc tcaggctaac	720
cctaagttga gaaggattat catttaccga gctactggta agcctaacca gatgtgggtg	780
ccagttcctt at	792

<210> 28
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin 1 (match)

<400> 28

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aagtctaata acgacccaaa ccaactttgg actattaaga gagacggtac aatcaggtct	180
aacggatctt gtcttactac atacgggtac actgcaggag tttacgttat gatttttgat	240
tgcaacacag cagttagaga agctacaatc tggcaaactc gggataacgg aactattatt	300
aaccctcggt ctaacttggg gcttgctgct tctagtggta ttaagggaac aactttgact	360
gttcagactt tggactatac tcttgggtcaa ggatgggttg ctggaaacga cacagctcct	420
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tgggttgaaa cttgtgattc atctcagaaa aatcagggca agtgggcact ttatggtgac	540
ggaagtatca gacctaaagca gaatcaggat cagtgtttga catccggtag ggatagtgtg	600
tctactgtta ttaacattgt gtcttgttct ggagctagtg gatctcaaag gtgggttttc	660
acaaacgagg gtgctatcct taacttgaag aacggctctg ctatggatgt tgctcaggct	720
aaccctaagt tgagaaggat tatcatttac ccagctactg gtaagcctaa ccagatgtgg	780
ttgccagttt tttat	795

<210> 29
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B2 (match)
 <400> 29

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cgtgttgatg ttcgggacga tgactttcat gacggtaacc aaatccaact ttggcctagt	120
aagtctaata acgacccaaa ccaactttgg actattaaga gagacaatac aatcaggtct	180
aacggatctt gtcttactac atacgggtac actgcaggag tttacgttat gatttttgat	240
tgcaacacag cagttagaga agctacaatc tggcaaactc gggataacgg aactattatt	300
aaccctcggt ctaacttggg gcttgctgct tctagtggta ttaagggaac aactttgact	360
gttcagactt tggactatac tcttgggtcaa ggatgggttg ctggaaacga cacagctcct	420
agagaagtta caatctacgg atttagagat ttgtgtatgg agtctaacca gggatctgtt	480
tgggttgaaa cttgtgattc atctcagaaa aatcagggca agtgggcact ttatggtgac	540
ggaagtatca gacctaaagca gaatcaggat cagtgtttga cagtcggtag ggatagtgtg	600
tctactgtta ttaacattgt gtcttgttct ggagctagtg gatctcaaag gtgggttttc	660
acaaacgagt atgctatcct taacttgaag tccggctctg ctatggatgt tgctcaggct	720

aaccctaagt tgagaaggat tatcatttac ccagctactg gtaagcctaa ccagatgtgg 780
 ttgccagttt tttat 795

<210> 30
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B3 (match)

<400> 30

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 cgtgttgatg ttccgggacga tgactttcat gacggtaacc aaatccaact ttggcctagt 120
 aagtctaata acgacccaaa ccaactttgg actattaaga gagacgggtac aatcaggtct 180
 aacggatctt gtcttactac atacgggttac actgcaggag ttacggttat gatttttgat 240
 tgcaacacag cagttagaga agctacaatc tggcaaatct gggataacgg aactattatt 300
 aaccctcggt ctaacttggg gcttgctgct tctagtggta ttaagggaac aactttgact 360
 gttcagactt tggactatac tcttgggtcaa ggatggttgg ctggaaacga cacagctcct 420
 agagaagtta caatctacgg atttagagat ttgtgtatgg agtctaacgg tggatctggt 480
 tgggttgaaa cttgtgattc atctcagaaa aatcagggca agtgggcact ttatggtgac 540
 ggaagtatca gacctaagca gaatcaggat cagtgtttga catccggtag ggatagtgtg 600

tctactgtta ttaacattgt gtcttgttct ggagctagtg gatctcaaag gtgggttttc 660
 acaaacgagg gtgctatcct taacttgaag accggtcttg ctatggatgt tgctcaggct 720
 aaccctaagt tgagaaggat tatcatttac ccagctactg gtaagcctaa ccagatgtgg 780
 ttgccagttt tttat 795

<210> 31
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B4 (match)

<400> 31

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 cgtgttgatg ttccgggacga tgactttcat gacggtaacc aaatccaact ttggcctagt 120
 aagtctaata acgacccaaa ccaactttgg actattaaga gagacgggtac aatcaggtct 180
 aacggatctt gtcttactac atacgggttac actgcaggag ttacggttat gatttttgat 240
 tgcaacacag cagttagaga agctacaatc tggcaaatct gggataacgg aactattatt 300

aaccctcggt	ctaacttggg	gcttgctgct	tctagtggta	ttaagggaac	aactttgact	360
gttcagactt	tggactatac	tcttgggtcaa	ggatgggttg	ctggaaacga	cacagctcct	420
agagaagtta	caatctacgg	atttagagat	ttgtgtatgg	agtctaacgg	tggatctggt	480
tgggttgaaa	cttgtgattc	atctcagaaa	aatcagggca	agtgggcact	ttatggtgac	540
ggaagtatca	gacctaagca	gaatcaggat	cagtgtttga	catccggtag	ggatagtgtg	600
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acaaacgagg	gtgctatcct	taacttgaag	aaaggtcctg	ctatggatgt	tgctcaggct	720
aaccctaagt	tgagaaggat	tatcatttac	ccagctactg	gtaagcctaa	ccagatgtgg	780
ttgccagttt	tttat					795

<210> 32
 <211> 795
 <212> DNA
 <213> Artificial

<220>
 <223> mistletoe lectin B5 (match)
 <400> 32

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cgtgttgatg	ttcgggacga	tgactttcat	gacggtaacc	aaatccaact	ttggcctagt	120
aagtctaata	acgacccaaa	ccaactttgg	actattaaga	gagacggtac	aatcaggtct	180
aacggatcct	gtcttactac	atacgggtac	actgcaggag	tttacgttat	gatttttgat	240
tgcaacacag	cagttagaga	agctacaatc	tggcaaactc	gggataacgg	aactattatt	300
aaccctcggt	ctaacttggg	gcttgctgct	tctagtggta	ttaagggaac	aactttgact	360
gttcagactt	tggactatac	tcttgggtcaa	ggatgggttg	ctggaaacga	cacagctcct	420
agagaagtta	caatctacgg	atttagagat	ttgtgtatgg	agtctaacgg	tggatctggt	480
tgggttgaaa	cttgtgattc	atctcagaaa	aatcagggca	agtgggcact	ttatggtgac	540
ggaagtatca	gacctaagca	gaatcaggat	cagtgtttga	catccggtag	ggatagtgtg	600
tctactgtta	ttaacattgt	gtcttgttct	ggagctagtg	gatctcaaag	gtgggttttc	660
acaaacgagg	gtgctatcct	taacttgaag	aactctctta	tggtggatgt	tgctcaggct	720
aaccctaagt	tgagaaggat	tatcatttac	ccagctactg	gtaagcctaa	ccagatgtgg	780
ttgccagttt	tttat					795

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20

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20

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24

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Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Glu Glu
1 5 10 15
Tyr Phe Arg Phe Ile Thr Leu Leu Arg Asp Tyr Val Ser Ser Gly Ser
20 25 30
Phe Ser Asn Glu Ile Pro Leu Leu Arg Gln Ser Thr Ile Pro Val Ser
35 40 45
Asp Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Gly Gln Asp
50 55 60
Ser Val Thr Ala Ala Ile Asp Val Thr Asn Ala Tyr Val Val Ala Tyr
65 70 75 80
Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Arg Gly Ala
85 90 95
Glu Thr His Leu Phe Thr Gly Thr Thr Arg Ser Ser Leu Pro Phe Asn
100 105 110
Gly Ser Tyr Pro Asp Leu Glu Arg Tyr Ala Gly His Arg Asp Gln Ile
115 120 125
Pro Leu Gly Ile Asp Gln Leu Ile Gln Ser Val Thr Ala Leu Arg Phe
130 135 140
Pro Gly Gly Ser Thr Arg Thr Gln Ala Arg Ser Ile Leu Ile Leu Ile
145 150 155 160
Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp Arg Tyr
165 170 175
Arg Gln Tyr Ile Asn Ser Gly Ala Ser Phe Leu Pro Asp Val Tyr Met
180 185 190
Leu Glu Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val Gln His
195 200 205
Ser Thr Asp Gly Val Phe Asn Asn Pro Ile Arg Leu Ala Ile Pro Pro
210 215 220
Gly Asn Phe Val Thr Leu Thr Asn Val Arg Asp Val Ile Ala Ser Leu
225 230 235 240
Ala Ile Met Leu Phe Val Cys Gly Glu Arg Pro Ser Ser Ser
245 250

<210> 38

<211> 256

<212> PRT

<213> Artificial

<220>

<223> mistletoe lectin A2

<400> 38

Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Asp Glu
1 5 10 15

Tyr Phe Arg Phe Ile Thr Leu Leu Arg Asp Tyr Val Ser Ser Gly Ser
20 25 30

Phe Ser Asn Glu Ile Pro Leu Leu Arg Gln Ser Thr Ile Pro Val Ser
35 40 45

Asp Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Gly Gln Asp
50 55 60

Ser Ile Thr Ala Ala Ile Asp Val Thr Asn Ala Tyr Val Val Ala Tyr
65 70 75 80

Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Arg Gly Ala
85 90 95

Glu Thr His Leu Phe Thr Gly Thr Thr Arg Asp Arg Ser Ser Leu Pro
100 105 110

Phe Thr Gly Ser Tyr Thr Asp Leu Glu Arg Tyr Ala Gly His Arg Asp
115 120 125

Gln Ile Pro Leu Gly Ile Glu Gln Leu Ile Gln Ser Val Ser Ala Leu
130 135 140

Arg Tyr Pro Gly Gly Ser Thr Arg Ala Gln Ala Arg Ser Ile Leu Ile
145 150 155 160

Leu Ile Gln Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp
165 170 175

Arg Tyr Arg Gln Asp Ile Asn Ser Gly Glu Ser Phe Leu Pro Asp Met
180 185 190

Tyr Met Leu Glu Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val
195 200 205

Gln His Ser Thr Asp Gly Val Phe Asn Asn Pro Phe Arg Leu Ala Ile
210 215 220

Ser Thr Gly Asn Phe Val Thr Leu Ser Asn Val Arg Ser Val Ile Ala
225 230 235 240

Ser Leu Ala Ile Met Leu Phe Val Cys Gly Glu Arg Pro Ser Ser Ser
245 250 255

<210> 39

<211> 253

<212> PRT

<213> Artificial

<220>

<223> mistletoe lectin A1 (matched)

<400> 39

Tyr Glu Arg Leu Arg Leu Arg Val Thr His Gln Thr Thr Gly Glu Glu
1 5 10 15

Tyr Phe Arg Phe Ile Thr Leu Leu Arg Asp Tyr Val Ser Ser Gly Ser
20 25 30

Phe Ser Asn Glu Ile Pro Leu Leu Arg Gln Ser Thr Ile Pro Val Ser
35 40 45

Asp Ala Gln Arg Phe Val Leu Val Glu Leu Thr Asn Gln Gly Gln Asp
50 55 60

Ser Val Thr Ala Ala Ile Asp Val Thr Asn Ala Tyr Val Val Ala Tyr
65 70 75 80

Gln Ala Gly Asp Gln Ser Tyr Phe Leu Arg Asp Ala Pro Arg Gly Ala
85 90 95

Glu Thr His Leu Phe Thr Gly Thr Thr Arg Ser Ser Leu Pro Phe Asn
100 105 110

Gly Ser Tyr Pro Asp Leu Glu Arg Tyr Ala Gly His Arg Gln Ile Pro
115 120 125

Leu Gly Ile Asp Gln Leu Ile Gln Ser Val Thr Ala Leu Arg Phe Pro
130 135 140

Gly Gly Ser Thr Arg Thr Gln Ala Arg Ser Ile Leu Ile Leu Ile Gln
145 150 155 160

Met Ile Ser Glu Ala Ala Arg Phe Asn Pro Ile Leu Trp Arg Tyr Arg
165 170 175

Gln Tyr Ile Asn Ser Gly Ala Ser Phe Leu Pro Asp Val Tyr Met Leu
180 185 190

Glu Leu Glu Thr Ser Trp Gly Gln Gln Ser Thr Gln Val Gln His Ser
195 200 205

Thr Asp Gly Val Phe Asn Asn Pro Ile Arg Leu Ala Ile Pro Pro Gly
210 215 220

Asn Phe Val Thr Leu Thr Asn Val Arg Asp Val Ile Ala Ser Leu Ala
225 230 235 240

Ile Met Leu Phe Val Cys Gly Glu Arg Pro Ser Ser Ser
245 250